

REMARKS

Entry of the present amendment to the claims is respectfully requested prior to an examination of the above-captioned application. The claims are amended herein to better clarify the invention, in accordance with the interview Applicants' U.S. counsel had with the Examiner on July 1, 2004.

As indicated in the non-entered response filed on July 29, 2004, Applicants noted that the Examiner had rejected claims 1, 3, 5-6, 8 and 10-20 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,991,717 to MINDE et al. in view of U.S. Patent No. 5,963,896 to OZAWA, but had indicated that claims 4 and 9 would be allowable if they are amended to be placed into independent form.

During the above-noted interview, Applicants discussed the features of the second codebook and the gain controller with the Examiner. In particular, Applicants indicated that the controller of the present invention functions to provide additional gain according to a distance between pulses of the excitation vector. That is, additional gain is provided for respective excitation vectors in the first subcodebook 61a, 62a and the second subcodebook 61b, 62b according to the distance between pulses of the excitation vectors in the first subcodebook 61a, 62a. Support for this feature may be found, inter alia, at page 17, lines 6-12 of Applicants' specification.

During the interview, it was discussed that neither MINDE et al. or OZAWA et al. disclose or suggest, either individually or in combination, at least the above-noted feature.

For instance, Applicants discussed that gains g_m and g_t of MINDE have no relation to the distance between the pulses of the excitation vectors, as required by Applicants' claimed invention.

Further, Applicants discussed that MINDE discloses a Multi-pulse excitation (MPE) generator 34 and Transformed Binary Pulse Excitation (TBPE) generator 36, instead of Applicants' claimed stochastic codebooks. That is, Applicants argued that MINDE et al. does not disclose or suggest the use of two subcodebooks, namely a first subcodebook that stores excitation vectors with a small number of pulses and a second subcodebook that stores excitation vectors with a large number of pulses, with a controller that provides additional gain for respective excitation vectors in at least one of the first subcodebook and the second subcodebook according to a distance between pulses of excitation vectors in the first subcodebook, as required by Applicants' claimed invention.

Similarly, Applicants discussed that OZAWA also fails to disclose/suggest at least the above-noted feature of the present invention. Applicants discussed during the interview that in OZAWA, the positions of the amplitude pulses are retrieved with a different gain for each group of pulses that are less in number than the total number of pulses M.

In this regard, Applicants also discussed that the additional gain for the excitation vectors according to the instant invention differs from the gain for amplitude quantization taught by OZAWA.

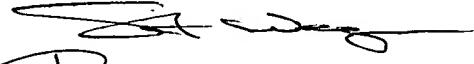
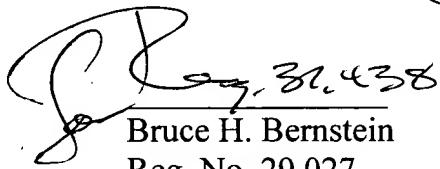
In the present invention, additional gain is provided according to the distance between the pulses of excitations vectors in a subcodebook. Applicants explained to the Examiner that neither OZAWA nor MINDE et al. disclose at least this claimed feature. Accordingly, Applicants indicated that even if one were to attempt to combine the teachings of the applied art of record in the manner suggested by the Examiner, one would fail to arrive at the instant invention, in which the stochastic codebook has a controller that provides additional gain for respective excitation vectors in at least one of the first subcodebook and the second subcodebook according to a distance between pulses of the excitation vector in the first subcodebook, and a computation system that obtains the excitation information using the gain controlled excitation vectors.

Based on the discussion during the interview, the Examiner indicated that this combination of features distinguish over the prior art.

By the current amendment, Applicants have revised the claims to clarify the distinguishable features discussed during the interview. In view of the fact that the applied art of record, whether considered alone or in the combination suggested by the Examiner, fails to disclose or suggest the present invention, as defined by the pending claims, and in further view of the above remarks, reconsideration of the Examiner's action and allowance of the present application are respectfully requested and are believed to be appropriate.

Should there be any questions or comments, the Examiner is requested to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
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